

WHAT IS CLAIMED IS:

1. An apparatus for simultaneously delivering multiple telephony services over a communications network comprising:
  - a single telephone cable; and
  - 5 a plurality of telephony devices connected to the single telephone cable.
2. The apparatus of claim 1, further comprising a digital telephone multiplexer connected to the single telephone cable.
3. The apparatus of claim 1, further comprising one digital telephone demultiplexer connected to each one said plurality of telephony devices.
- 10 4. The apparatus of claim 3, wherein the single telephone cable is connected to each one of the demultiplexers.
5. The apparatus of claim 2, wherein the digital telephone multiplexer is disposed in a communications gateway.
6. An apparatus for simultaneously delivering multiple telephony services over a communications network comprising:
  - a single telephone cable;
  - a plurality of sets of telephone/demultiplexer units connected to said cable, each one of said telephone/demultiplexer units including a demultiplexer and telephone device, wherein each one of said demultiplexers of said plurality of sets of telephone/demultiplexer
  - 20 units are connected to said cable and each one of said telephone devices of said plurality of sets of telephone/demultiplexer units are connected to its respective demultiplexer; and
  - a multiplexer coupled to said cable, and generating voice data over said cable.
7. An apparatus for simultaneously delivering multiple telephony services over a VoIP

voice communications network comprising:

a single telephone cable connected to the VoIP voice communications network;

a multiplexer generating a multiplexed voice data stream over and connected to said cable, wherein the digital telephone multiplexer is disposed in a communications gateway;

5 and

a plurality of sets of telephone/demultiplexer units connected to said cable, each one of said telephone/demultiplexer units including a demultiplexer and telephone device, wherein each one of said demultiplexers of said plurality of sets of telephone/demultiplexer units are connected to said cable and each one of said telephone devices of said plurality of sets of telephone/demultiplexer units are connected to its respective demultiplexer, wherein each of said telephone/demultiplexer units are configured to generate a demultiplexed voice data stream in response to said multiplexed voice data stream.

8. A method for simultaneously delivering multiple telephony services over a communications network, the method comprising the steps of:

15 providing a single telephone cable; and

connecting a plurality of telephony devices to the single telephone cable.

9. The method of claim 8, further comprising providing a digital telephone multiplexer connected to the single telephone cable.

10. The method of claim 8, further comprising providing one digital telephone demultiplexer connected to each one said plurality of telephony devices.

11. A method for simultaneously delivering multiple telephony services over a communications network, the method comprising the steps of:

providing a single telephone cable;

connecting a plurality of sets of telephone/demultiplexer units to said cable, each one of said telephone/demultiplexer units including a demultiplexer and telephone device, wherein each one of said demultiplexers of said plurality of sets of telephone/demultiplexer units are connected to said cable and each one of said telephone devices of said plurality of sets of telephone/demultiplexer units are connected to its respective demultiplexer; and

coupling a multiplexer to said cable, and generating multiplexed voice data over said cable.

12. A method for simultaneously delivering multiple telephony services over a communications network, the method comprising the steps of:

providing a single telephone cable;

connecting to said cable and generating a multiplexed voice data stream over said cable with a multiplexer, wherein the multiplexer is disposed in a communications gateway; and

connecting a plurality of sets of telephone/demultiplexer units to said cable, each one of said telephone/demultiplexer units including a demultiplexer and telephone device, wherein each one of said demultiplexers of said plurality of sets of telephone/demultiplexer units are connected to said cable and each one of said telephone devices of said plurality of sets of telephone/demultiplexer units are connected to its respective demultiplexer, wherein each of said telephone/demultiplexer units are configured to generate a demultiplexed voice data stream in response to said multiplexed voice data stream.

13. A communications gateway (CG) for transmitting and receiving voice communication data to a plurality of telephone/demultiplexer units over a single external telephone cable comprising:

a computer memory;

a central processing unit coupled to the computer memory;

a digital signal processor coupled to the computer memory and the central processor unit; and

5 a multiplexer coupled to the digital signal processor and the single external telephone cable being configured to transmit and receive said voice communication data.

14. The communications gateway of claim 13, wherein the hybrid fiber cable media access interface, the computer memory, and the shared central processor unit comprise a cable modem portion.

10 15. The communications gateway of claim 13, wherein the digital signal processor, the multiplexer, and the shared central processor comprise a telephony interface.

16. A telephony adapter for adapting transmission of transmitted and received voice communication data to a telephone device over a single external telephone cable comprising;

15 a demultiplexer coupled to the single external telephone cable;

a coder/decoder coupled to the demultiplexer; and

a subscriber line interface connection coupled to the coder/decoder, the subscriber line interface connection configured to adapt said transmission of the transmitted and received voice communication data.